This Exam measures ILOs: a.4, a. 8 ,b.2, b.3, b.5 ,c3 , d7

Answer all the following questions:

Clarify your answer with the suitable diagrams.

Q.1 Prove that the frequency of rotation of a satellite around its orbit does not depend on its mass.   (10 Marks)

Q.2 A Giant ship travelling from India to the US through the Suez Canal needs a satellite for communication and GPS. In your opinion, what is the best orbital satellite for this job? Explain the advantages and disadvantages of your choice.   (10 Marks)

Q.3 Draw and Explain How the TWT Amplifier works.   (10 Marks)

Q.4 What is a Regenerative Repeater? How is it different from Transparent Repeater? (10 Marks)

Q.5 What is RECIPROCITY THEOREM? Explain the consequences of this theorem. (10 Marks)

impedance is the same or both the modes of operation.

Q.6 Explain with Drawings the following: (10 Marks)

    a- the Cassegrain Antennas.   b- Gregorian Antennas.

Q.7 Explain how to design the Shaped Reflector System.   (10 Marks)

Q.8 Explain the Design Considerations of FDMA system.   (10 Marks)

Q9. Calculate the epoch day of 5 hours 52 minutes and 40 seconds of the 34th day of the year   (10 Marks).

Good Luck and Best Wishes   *Dr. Ibrahim Elashry*